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EXAMINER

HAILE, FEBEN

ART UNIT PAPER NUMBER

2663

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/918,531

Applicant(s)

HAYASHI ET AL.

Examiner

Feben M Haile

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 11 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-9 and 12-17 is/are rejected.
- 7) ☒ Claim(s) 2, 6, 9 & 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date August 01, 2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 9 is objected to because of the following informalities: on line 11, the word "routers" should be deleted and the word -receivers- should be added.

Appropriate correction is required.

2. Claim 12 is objected to because of the following informalities: on line 15, the word "transmit" should be deleted and the word -retransmit- should be added.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5, 7-9, & 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buskens et al. (US 5,905,871).

**Regarding claim 1 & 5,** Buskens discloses the limitations: transmitting first and second data packet from said sender to said first, second, third and fourth receivers (figure 1 and column 2 line 67 - column 2 line 2; a sender sends a single copy of data to all the receivers); detecting at said first, second, third and fourth receivers whether said first and second data packets are properly received (column 3 lines 8-11; receivers compile status messages); transmitting a first

Art Unit: 2663

reception information signal from said first receiver to said first router by a first path (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); transmitting a second reception information signal from said second receiver to said first router by a second path (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); transmitting a third reception information signal from said third receiver to said first router by a third path (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); determining, at said first router, in dependence upon said first, second and third reception information signals, whether said first, second and third receivers require re-transmission of said first and second data packets and, if so, transmitting information relating to said first, second and third reception information signals to said second router (figure 1 unit 105 and column 3 lines 8-13; the designated receiver reports the status of the receivers to another higher level designated receiver and retransmits lost packets).

Buskens fails to teach the limitations: determining, at said second router, whether said fourth receiver requires re-transmission of said data packet and, if not, instructing said first router to re-transmit said data packet to said first and second receivers.

Official notice is taken that the concept of a positive instruction or no instruction (silence) can be used to achieve the same result. In the instant application, the second router obtains an information signal from the first router and instructs the first router to resend the data, hence a positive instruction. In

Art Unit: 2663

Buskens, a higher level receiver obtains a status signal from a lower level receiver but does not send an instruction. Not sending an instruction (silence) implies that it is okay for the lower level receiver to retransmit the data. Thus a positive instruction or silence can be used to achieve the same result.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that choosing between silence or a positive instruction is a matter of design choice. The motivation for choosing silence being the number of transmissions between devices is decreased allowing for a more efficient use of bandwidth.

**Regarding claims 3 & 7,** Buskens discloses the limitations: receiving at said first router information relating to said data packet (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver).

**Regarding claims 4, 8 & 13,** Buskens discloses the limitations: wherein the network comprises a plurality of sub-networks (figure 1 units 102, 102 & 103).

**Regarding claim 9,** Buskens discloses the limitations: receiving a first message comprising information relating to receipt of a data packet by a first receiver (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver), receiving a second message comprising information relating to receipt of a data packet by a second receiver (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver), determining in dependence upon said first and second messages whether said first and second receivers require re-transmission of said data packet and, if so, transmitting a third message relating to receipt of said data

Art Unit: 2663

packet by said first and second receivers to another router (figure 1 unit 105 and column 3 lines 8-13; the designated receiver reports the status of the receivers to another higher level designated receiver and retransmits lost packets).

Buskens fails to teach the limitations: receiving an instruction from said other router to retransmit said data packet to said first and second routers.

Official notice is taken that the concept of a positive instruction or no instruction (silence) can be used to achieve the same result. In the instant application, the second router obtains an information signal from the first router and instructs the first router to resend the data, hence a positive instruction. In Buskens, a higher level receiver obtains a status signal from a lower level receiver but does not send an instruction. Not sending an instruction (silence) implies that it is okay for the lower level receiver to retransmit the data. Thus a positive instruction or silence can be used to achieve the same result.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that choosing between silence or a positive instruction is a matter of design choice. The motivation for choosing silence being the number of transmissions between devices is decreased allowing for a more efficient use of bandwidth.

**Regarding claim 12**, Buskens discloses the limitations: receiving at the first router, via a first path, first reception information relating to said data packet including information relating to the identity of the source of said first reception information (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); receiving at the first router, via a second

Art Unit: 2663

path, second reception information relating to said data packet including information relating to the identity of the source of said second reception information (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); determining, at said first router, in dependence upon said first and second reception information signals, whether recovery of said data packet is required and, if so, transmitting information relating to said first and second reception information signals to said second router (figure 1 unit 105 and column 3 lines 8-13; the designated receiver reports the status of the receivers to another higher level designated receiver and retransmits lost packets).

Buskens fails to disclose the limitations: determining at said second router, whether further reception state information relating to said data packet identifying a further source is received and whether recovery of said data packet in respect of said further source is required instructing said first router to transmit said data packet for intended receipt by said sources of said first and second reception information.

Official notice is taken that the concept of a positive instruction or no instruction (silence) can be used to achieve the same result. In the instant application, the second router obtains an information signal from the first router and instructs the first router to resend the data, hence a positive instruction. In Buskens, a higher level receiver obtains a status signal from a lower level receiver but does not send an instruction. Not sending an instruction (silence)

Art Unit: 2663

implies that it is okay for the lower level receiver to retransmit the data. Thus a positive instruction or silence can be used to achieve the same result.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that choosing between silence or a positive instruction is a matter of design choice. The motivation for choosing silence being the number of transmissions between devices is decreased allowing for a more efficient use of bandwidth.

**Regarding claim 14-15**, Buskens discloses the limitations: a first router including: an input to receive a first reception information signal relating to whether said data packet is properly received by said first receiver and a second reception information signal relating to whether said data packet is properly received by said second receiver (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); a processor to determine in dependence upon said first and second reception information signals, whether said first and second receivers require re-transmission of said data packet and an output to transmit information relating to said first and second detection information signals to said second router (figure 1 unit 105 and column 3 lines 8-13; the designated receiver reports the status of the receivers to another higher level designated receiver and retransmits lost packets); a second router including: an input to receive said information from the first router and a third reception information signal relating to whether said data packet is properly received by said third receiver a processor to determine whether said third receiver requires re-transmission of said data packet (figure 1 unit 105 and



Art Unit: 2663

column 3 lines 8-13; the designated receiver reports the status of the receivers to another higher level designated receiver and retransmits lost packets).

Buskens fails to teach the limitations: an output to transmit an instruction to said first router to re-transmit said data packet to said first and second receivers.

Official notice is taken that the concept of a positive instruction or no instruction (silence) can be used to achieve the same result. In the instant application, the second router obtains an information signal from the first router and instructs the first router to resend the data, hence a positive instruction. In Buskens, a higher level receiver obtains a status signal from a lower level receiver but does not send an instruction. Not sending an instruction (silence) implies that it is okay for the lower level receiver to retransmit the data. Thus a positive instruction or silence can be used to achieve the same result.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that choosing between silence or a positive instruction is a matter of design choice. The motivation for choosing silence being the number of transmissions between devices is decreased allowing for a more efficient use of bandwidth.

**Regarding claim 16 & 17,** Buskens discloses the limitations: an input for receiving a first message comprising information relating to receipt of a data packet by a first receiver (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver); an input for receiving a second message comprising information relating to receipt of a data packet by a second

Art Unit: 2663

receiver (figure 1 unit 104 and column 3 lines 8-11; receivers send status messages to a designated receiver), a processor for determining in dependence upon said first and second messages whether said first and second receivers require re-transmission of said data packet and an output for transmitting a third message relating to receipt of said data packet by said first and second receivers to another router if said first and second receivers require re-transmission of said data packet (figure 1 unit 105 and column 3 lines 8-13; the designated receiver reports the status of the receivers to another higher level designated receiver and retransmits lost packets).

Buskens fails to teach the limitations: an input for receiving an instruction from said other router to retransmit said data packet to said first and second receivers.

Official notice is taken that the concept of a positive instruction or no instruction (silence) can be used to achieve the same result. In the instant application, the second router obtains an information signal from the first router and instructs the first router to resend the data, hence a positive instruction. In Buskens, a higher level receiver obtains a status signal from a lower level receiver but does not send an instruction. Not sending an instruction (silence) implies that it is okay for the lower level receiver to retransmit the data. Thus a positive instruction or silence can be used to achieve the same result.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that choosing between silence or a positive instruction is a matter of design choice. The motivation for choosing silence

Art Unit: 2663

being the number of transmissions between devices is decreased allowing for a more efficient use of bandwidth.

***Allowable Subject Matter***

4. Claims 2 & 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 10-11 are allowed. The following is a statement of reasons for the indication of allowable subject matter:

**Regarding claim 10**, the prior art fails to teach the limitations: receiving a first message from a first network element comprising information relating to receipt of a data packet by a first receiver, determining whether a second message from a second network element comprising information relating to receipt of said data packet by a second receiver has been received and if not, instructing said first network element to re-transmit said data packet, or if so, transmitting a third message relating to receipt of said data packet by said first and second receivers to third network element and receiving an instruction from said third network element to re-transmit said data packet to said first and second network elements.

**Regarding claim 11**, the prior art fails to teach the limitations: receiving a first message from a first network element comprising a first set of information relating to a plurality of data packets, determining whether a second message from a second network element comprising a second set of information relating

Art Unit: 2663

to said plurality of data packets has been received and if not, instructing said first network element to re-transmit one or more of said plurality of data packets in dependence upon said first set of information, if so, in dependence upon said first and second sets of information, determining the number data packets common to both first and second sets that are required for re-transmission and determining whether this number exceeds a predetermined number and if the number does not exceed the predetermined number, instructing said first network element to re-transmit one or more of said plurality of data packets in dependence upon said first set of information and instructing said second network element to re-transmit one or more of said plurality of data packets in dependence upon said second set of information, if the number does exceed the predetermined number, transmitting a third message relating to said first and second sets of information to third network element and receiving an instruction from said third network element to re-transmit one or more of said plurality of data packets in dependence upon said first and second sets of information.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Wesley et al. (US 6,104,695), Repair TTL Computation and Correction Mechanism to Perform Localized Repairs in a Multicast Data Distribution Setup/Framework

Art Unit: 2663

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KENNETH VANDERPUYE  
PRIMARY EXAMINER